

# MASSACHUSETTS WATER RESOURCES COMMISSION

## Hydrologic Conditions in Massachusetts

### October 2015 Summary



- October precipitation was near normal for all regions.
- October streamflows were normal in all regions.
- October groundwater levels were normal in all regions, except the Northeast.
- October reservoir levels were normal.

*HAPPY NEW WATER YEAR 2016!*



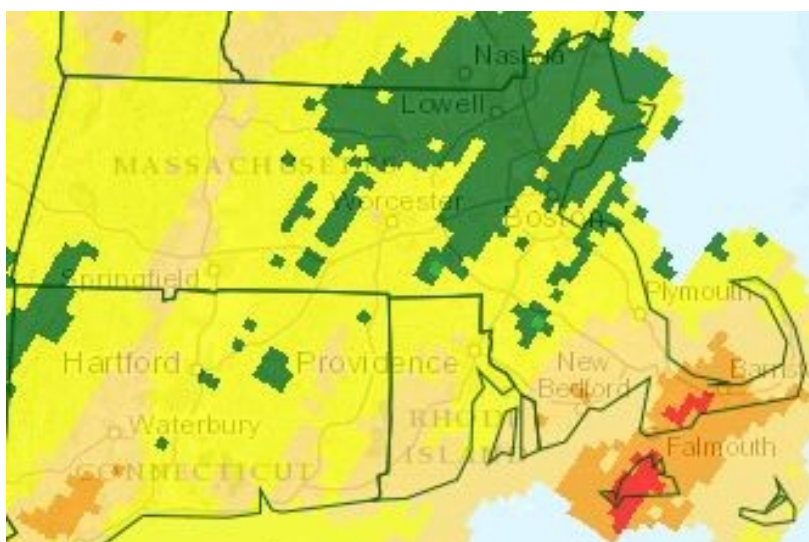
#### PRECIPITATION CONDITIONS

**Summary:** October precipitation was near normal for all regions.

Region	October Estimated Rainfall: Composite Sites Reporting (inches)	Departure from Normal (inches)	MA Drought Management Plan Levels	
			Standardized Precipitation Index	Percent of Normal Index
Cape Cod & Islands	6.20	2.47	Normal	Normal
Central	3.02	-0.90	Normal	Normal
Connecticut River	3.80	0.06	Normal	Normal
Northeast	3.10	-0.66	Normal	Normal
Southeast	4.18	0.38	Normal	Normal
Western	2.80	-1.07	Normal	Normal

#### Oct 2015 Total Observed Rainfall from National Weather Service

found at <http://water.weather.gov/precip/> estimated from radar data correlated to NWS rainfall gauge reports



#### Weather Events of Note

Source: NWS Taunton E-5 Report

Urban poor drainage flooding was reported within southeast Massachusetts during the early morning hours of the 29th, with multiple road closures in Fall River due to standing water on flooded roadways. Also in Fall River man-hole covers popped off due to flooding on Globe Street in the Four Corners area. Isolated poor drainage flooding occurred in Plymouth and Attleboro.



## STREAMFLOW CONDITIONS

**Summary:** October streamflow conditions were normal.

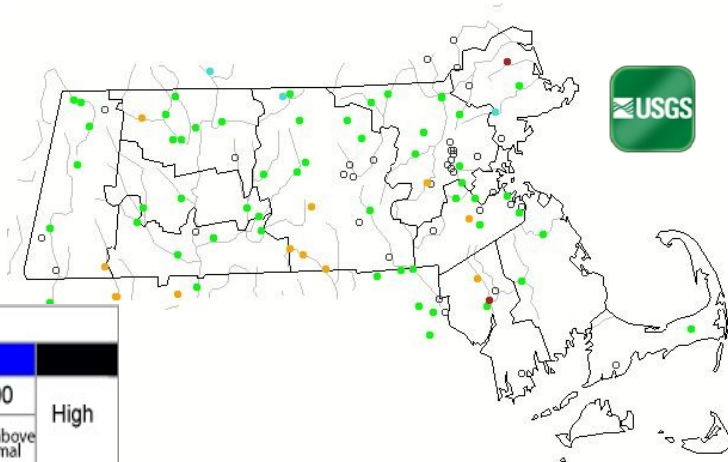
### General Streamflow Conditions in Massachusetts October 2015

Region	Streamflow Conditions	MA Drought Plan Streamflow Index
Cape Cod & Islands	ND	Normal
Central	Normal	Normal
Connecticut River	Normal	Normal
Northeast	Normal	Normal
Southeast	Normal	Normal
Western	Normal	Normal

**Note:** Streamflow conditions for individual streamflow-gaging stations may differ from general conditions.  
ND, no data

Average October 2015 streamflow monitored by the Commonwealth of Massachusetts and United States Geological Survey (USGS) cooperative stream gaging program. See map at right found at: <http://waterwatch.usgs.gov/index.php?r=ma&id=mv01d>

### October 2015 Monthly Streamflow Compared to Historical October Streamflow



Explanation - Percentile classes					
Low	<10	10-24	25-75	76-90	>90
	Much below normal	Below normal	Normal	Above normal	Much above normal
					High

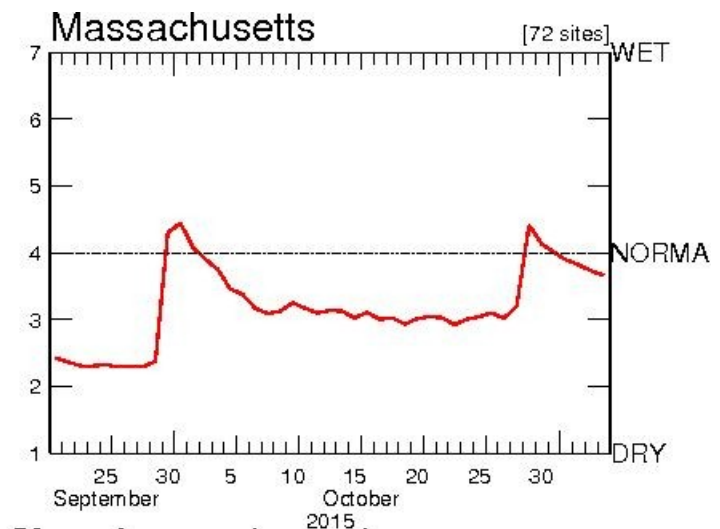
### Time Series Plot of Real-Time Streamflow Compared to Historical Streamflow for the Day of the Year

This graph depicts a composite daily streamflow relative to normal streamflow for Massachusetts for the 45-day period of Sept 21 to Nov 2. An updated summary plot may be found at: <http://waterwatch.usgs.gov/index.php>



#### KEY:

- 1 = New record low for day
- 2 = < 10<sup>th</sup> percentile
- 3 = 10<sup>th</sup> – 24<sup>th</sup> percentile
- 4 = 25<sup>th</sup> – 74<sup>th</sup> percentile
- 5 = 75<sup>th</sup> – 89<sup>th</sup> percentile
- 6 = 90<sup>th</sup> percentile
- 7 = New record high for day



## GROUNDWATER LEVELS

**Summary:** October groundwater levels were normal except for the Northeast region.

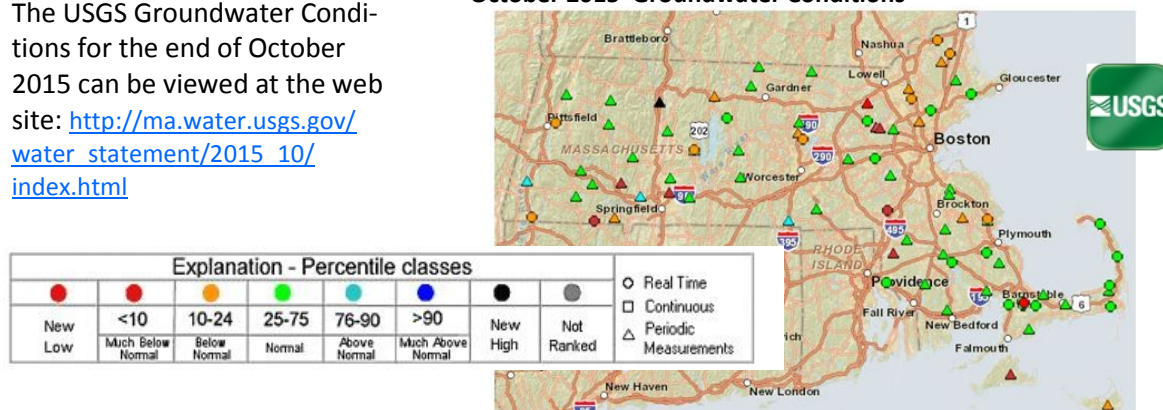
### General Groundwater Conditions in Massachusetts at the end of October 2015

Region	Groundwater Conditions	MA Drought Plan Groundwater Index
Cape Cod & Islands	Normal	Normal
Central	Normal	Normal
Connecticut River	Normal	Normal
Northeast	Below Normal	Normal
Southeast	Normal	Normal
Western	Normal	Normal

**Note:** Groundwater conditions for individual wells may differ from general conditions. ND, no data

The USGS Groundwater Conditions for the end of October 2015 can be viewed at the web site: [http://ma.water.usgs.gov/water\\_statement/2015\\_10/index.html](http://ma.water.usgs.gov/water_statement/2015_10/index.html)

### October 2015 Groundwater Conditions



## RESERVOIR LEVELS

**Summary:** October reservoir levels were normal across all regions of the state based on percent full values, as reported by participating water suppliers.

### General Reservoir Levels in Massachusetts at the end of October 2015

Region	Reservoir Level	MA Drought Management Plan Reservoir Index
Cape Cod & Islands	Normal	Normal
Central	Normal	Normal
Connecticut River	Normal	Normal
Northeast	Normal	Normal
Southeast	Normal	Normal
Western	Normal	Normal

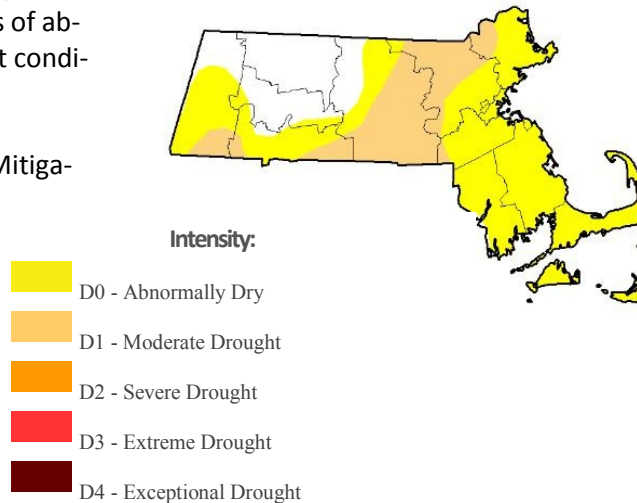
## NWS/NOAA DROUGHT OUTLOOK AND FORECAST

### U.S. Drought Monitor: Massachusetts November 10, 2015

**Summary:** As of November 10, 2015, the U.S. Drought Monitor shows regions of abnormally dry and moderate drought conditions in Massachusetts.

Produced by the National Drought Mitigation Center (NDMC). Intensity based on NDMC criteria. For updated map see:

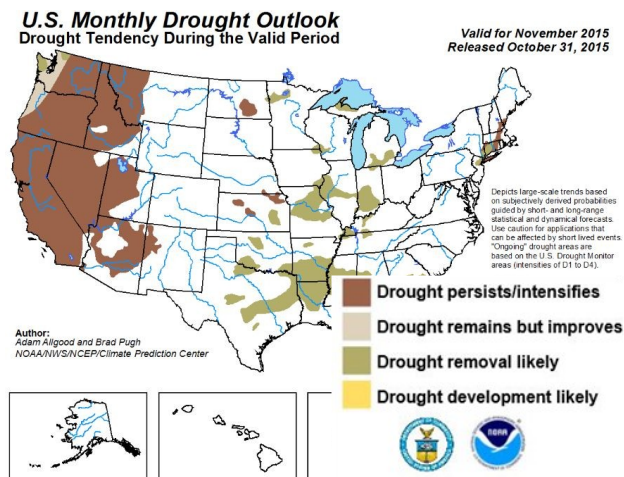
<http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?MA>



### Monthly Drought Outlook November 2015

The NOAA Monthly Drought Outlook (released Oct. 31, 2015 valid for November 2015) indicates an area of drought persistence/intensification likely in central Massachusetts.

[http://www.cpc.ncep.noaa.gov/products/expert\\_assessment/month\\_drought.png](http://www.cpc.ncep.noaa.gov/products/expert_assessment/month_drought.png)



## NOAA NATIONAL WEATHER SERVICE CLIMATE PREDICTION CENTER

The Climate Prediction Center November 11<sup>th</sup> forecast shows above normal temperature and above normal precipitation in the Massachusetts region Nov. 17 through Nov. 21, 2015. (<http://www.cpc.noaa.gov/products/predictions/610day/>). The Center's October 15<sup>th</sup> three-month outlook for November, December 2015 and January 2016 shows above normal temperatures and no signal for precipitation anomaly. ([http://www.cpc.noaa.gov/products/predictions/long\\_range/seasonal.php?lead=1](http://www.cpc.noaa.gov/products/predictions/long_range/seasonal.php?lead=1)). More information is available at (<http://www.cpc.noaa.gov/index.php>).

**Key Links:** Massachusetts Drought Management Plan: <http://www.mass.gov/eea/docs/eea/wrc/droughtplan.pdf>

**November 12, 2015:** This report was prepared by the Massachusetts Department of Conservation and Recreation. Data may be preliminary in nature. Additional information, previous and future water conditions reports can be found on our web site: <http://www.mass.gov/eea/agencies/dcr/water-res-protection/water-data-tracking/precipitation-composite-current-conditions.html>